## II. AMENDMENTS TO THE CLAIMS

The following Listing of Claims replaces all prior versions, and listings, of claims in the application. The text of all pending claims is submitted, amendments to the claims are delineated, and the status of each claim is identified.

### Listing of Claims

1. (Original) Method for cutting nanotubes comprising:

exposing at least one nanotube having a first length to a soft organic material; and

grinding said at least one nanotube with said soft organic material to result in at least one shortened nanotube having a length that is shorter than said first length.

2. (Original) The method of claim 1 wherein said soft organic material comprises cyclodextrin.

3. (Original) The method of claim 2 wherein said cyclodextrin comprises at least one selected from the group consisting of:

γ-cyclodextrin, α-cyclodextrin, β-cyclodextrin, δ-cyclodextrin, ε-cyclodextrin, and any derivative of at least one of the aforementioned cyclodextrins.

4. (Previously Presented) The method of claim 1 wherein said soft organic material comprises at least one selected from the group consisting of: at least one glucopyrane, at least one monosaccharide, at least one cyclic oligosaccharide, at least one linear oligosaccharide, at least one branched oligosaccharide, at least one cyclic polysaccharide, at least one linear polysaccharide, and at least one branched polysaccharide.

5. (Previously Presented) The method of claim 1 wherein said soft organic material is soluble in at least one of an organic solvent and an inorganic solvent.

6. (Original) The method of claim 5 further comprising: solubilizing said soft organic material to separate said at least one shortened nanotube from said soft organic material.

7. (Original) The method of claim 1 wherein said soft organic material is a dispersing reagent capable of dispersing a plurality of solid-state nanotubes.

8. (Original) The method of claim 1 wherein said first length is the length of said at least one nanotube as produced.

9. (Original) The method of claim 1 wherein said first length is at least 1 micrometer (μm).

10. (Original) The method of claim 1 wherein said first length is less than 1 micrometer (μm).

11. (Original) The method of claim 1 wherein said at least one nanotube comprises at least one selected from the group consisting of:

carbon nanotube, single-walled nanotube, multi-walled nanotube, and boron nitride nanotube.

12. (Previously Presented) A system for cutting nanotubes comprising:

at least one nanotube having a first length;

soft organic material; and

grinding mechanism operable to apply force against said at least one nanotube and said soft organic material to cut said at least one nanotube to produce at least two nanotubes each having a length shorter than said first length.

13. (Original) The system of claim 12 wherein said soft organic material comprises cyclodextrin.

14. (Original) The system of claim 13 wherein said cyclodextrin is at least one selected from the group consisting of: γ-cyclodextrin, α-cyclodextrin, β-cyclodextrin, δ-cyclodextrin, ε-cyclodextrin, and any derivative of at least one of the aforementioned cyclodextrins.

15. (Original) The system of claim 12 wherein said soft organic material comprises at least one selected from the group consisting of: at least one glucopyranose, at least one monosaccharide, at least one cyclic oligosaccharide, at least one linear oligosaccharide, at least one branched oligosaccharide, at least one cyclic polysaccharide, at least one linear

polysaccharide, at least one branched polysaccharide, and any derivative of the aforementioned.

16. (Original) The system of claim 12 wherein said grinding mechanism comprises a mortar and pestle.

17. (Original) The system of claim 12 wherein said grinding mechanism comprises a planetary ball mill.

18. (Original) The system of claim 12 further comprising a plurality of nanotubes.

19. (Original) The system of claim 18 wherein said soft organic material comprises a dispersing reagent capable of dispersing at least a portion of said plurality of nanotubes when said plurality of nanotubes are in solid-state form.

20. (Previously Presented) The system of claim 12 herein said soft organic material is soluble in at least one of an organic solvent and an inorganic solvent.

21. (Original) The system of claim 12 wherein said at least one nanotube comprises at least one carbon nanotube.

22. (Previously Presented) A system for cutting nanotubes comprising:

a plurality of nanotubes, at least one of said plurality of nanotubes having a first length;

dispersing reagent comprising a soft organic material for dispersing at least a portion of said plurality of nanotubes; and

grinding mechanism operable to apply force against said at least one of said plurality of nanotubes to cut said at least one nanotube to produce at least two nanotubes each having a length shorter than said first length.

23. (Original) The system of claim 22 wherein said dispersing reagent comprises cyclodextrin.

24. (Original) The system of claim 23 wherein said cyclodextrin is at least one selected from the group consisting of: γ-cyclodextrin, α-cyclodextrin, β-cyclodextrin, δ-

cyclodextrin, ε-cyclodextrin, and any derivative of at least one of the aforementioned cyclodextrins.

25. (Original) The system of claim 22 wherein said dispersing reagent comprises at least one selected from the group consisting of: at least one glucopyranose, at least one monosaccharide, at least one cyclic oligosaccharide, at least one linear oligosaccharide, at least one branched oligosaccharide, at least one cyclic polysaccharide, at least one linear polysaccharide, at least one branched polysaccharide, and any derivative of the aforementioned.

26. (Original) The system of claim 22 wherein said grinding mechanism comprises a mortar and pestle.

27. (Original) The system of claim 22 wherein said grinding mechanism comprises a planetary mill.

28. (Canceled)

29. (Previously Presented) The system of claim 22 wherein said dispersing reagent is soluble in at least one of an organic solvent and an inorganic solvent.

30. (Original) The system of claim 22 wherein said plurality of nanotubes comprise at least one carbon nanotube.

31. (Currently Amended) Method for cutting nanotubes comprising:

exposing at least one nanotube having a first length to a soluble solid organic material, said soluble solid organic material being soluble in at least one of an organic solvent and an inorganic solvent; and

using said soluble solid organic material to grind said at least one nanotube to result in at least one shortened nanotube having a length that is shorter than said first length.

32. (Currently Amended) The method of claim 31 wherein said soluble solid organic material comprises cyclodextrin.

33. (Original) The method of claim 32 wherein said cyclodextrin comprises at least one selected from the group consisting of: γ-cyclodextrin, α-cyclodextrin, β-cyclodextrin, δ-cyclodextrin, ε-cyclodextrin, and any derivative of at least one of the aforementioned cyclodextrins.

34. (Currently Amended) The method of claim 31 wherein said soluble solid organic material comprises at least one selected from the group consisting of: at least one glucopyranose, at least one monosaccharide, at least one cyclic oligosaccharide, at least one linear oligosaccharide, at least one branched oligosaccharide, at least one cyclic polysaccharide, at least one linear polysaccharide, at least one branched polysaccharide, and any derivative of the aforementioned.

35. (Currently Amended) The method of claim 31 wherein said soluble solid organic material is soft.

36. (Currently Amended) The method of claim 31 wherein said soluble solid organic material is a dispersing reagent capable of dispersing a plurality of solid-state nanotubes.

37. (Original) The method of claim 31 wherein said first length is the length of said at least one nanotube as produced.

38. (Original) The method of claim 31 wherein said first length is at least 1 micrometer (μm).

39. (Canceled)

40. (Original) The method of claim 31 further comprising: solubilizing said soluble organic material to separate said at least one shortened nanotube from said soluble organic material.

41. (Original) The method of claim 31 wherein said at least one nanotube comprises at least one selected from the group consisting of: carbon nanotube, single-walled carbon nanotube, multi-walled carbon nanotube, and boron nitride nanotube.

42. (Original) Method for cutting nanotubes comprising: presenting cyclodextrin to at least one nanotube; and applying a force against at least said at least one nanotube to cut said at least one nanotube.

43. (Original) The method of claim 42 wherein said applying a force comprises: grinding said at least one nanotube with said cyclodextrin.

44. (Previously Presented) The method of claim 42 wherein said presenting step comprises presenting said cyclodextrin to a plurality of nanotubes, and said method further comprises said dispersing at least a portion of said plurality of nanotubes with said cyclodextrin.

45. (Original) The method of claim 42 wherein said cyclodextrin comprises at least one selected from the group consisting of: γ-cyclodextrin, α-cyclodextrin, β-cyclodextrin, δ-cyclodextrin, ε-cyclodextrin, and any derivative of at least one of the aforementioned cyclodextrins.

46. (Original) The method of claim 42 wherein said at least one nanotube comprises at least one selected from the group consisting of: carbon nanotube, single-walled nanotube, multi-walled nanotube, and boron nitride nanotube.

47. (Original) The method of claim 42 wherein said at least one nanotube has a diameter of at least 0.4 nm.

48. (Original) The method of claim 42 wherein said at least one nanotube has a diameter that is less than 1 nm.

49. (Original) The method of claim 48 wherein said at least one nanotube has a diameter within the range of approximately 0.4 to approximately 400 nm.

50. (Original) Method for cutting nanotubes comprising: exposing at least one nanotube having a first length to a solid-state nanotube dispersing reagent; and applying a force against said at least one nanotube to result in at least one shortened nanotube having a length that is shorter than said first length.

51. (Original) The method of claim 50 wherein said dispersing reagent comprises cyclodextrin.

52. (Original) The method of claim 51 wherein said cyclodextrin comprises at least one selected from the group consisting of: γ-cyclodextrin, α-cyclodextrin, β-cyclodextrin, δ-cyclodextrin, ε-cyclodextrin, and any derivative of at least one of the aforementioned cyclodextrins.

53. (Original) The method of claim 50 wherein said dispersing reagent comprises at least one selected from the group consisting of: at least one glucopyranose, at least one monosaccharide, at least one cyclic oligosaccharide, at least one linear oligosaccharide, at least one branched oligosaccharide, at least one cyclic polysaccharide, at least one linear polysaccharide, at least one branched polysaccharide, and any derivative of the aforementioned.

54. (Previously Presented) The method of claim 50 wherein said dispersing reagent is soluble in at least one of an organic solvent and an inorganic solvent.

55. (Original) The method of claim 50 wherein said grinding step further comprises:

grinding said at least one nanotube with said solid-state nanotube dispersing reagent.

56. (Previously Presented) The method of claim 55 wherein said dispersing reagent is soluble, and further comprising:

solubilizing said dispersing reagent with at least one of an organic solvent and an inorganic solvent to separate said at least one shortened nanotube from said dispersing reagent.

57. (Original) The method of claim 50 wherein said first length is the length of said at least one nanotube as produced.

58. (Original) The method of claim 57 wherein said at least one nanotube is produced by a technique selected from the group consisting of: a gas-phase catalytic reaction process, an electric arc process, and a laser vaporization process.

59. (Original) The method of claim 50 wherein said first length is at least 1 micrometer (μm).

60. (Original) The method of claim 50 wherein said at least one nanotube comprises at least one carbon nanotube.

61 - 95. (Canceled)

96. (Previously Presented) The method of claim 5 wherein said soft organic material is soluble in at least one organic solvent.

97. (Currently Amended) The method of ~~claim 97~~ claim 96 wherein said at least one organic solvent comprises at least one solvent selected from the group consisting of: acetic acid; acetone; acetonitrile; aniline; benzene; benzonitrile; benzyl alcohol; bromobenzene; bromoform; 1-butanol; 2-butanol; carbon disulfide; carbon tetrachloride; chlorobenzene; chloroform; cyclohexane; cyclohexanol; decalin; dibromethane; diethylene glycol; diethylene glycol ethers; diethyl ether; diglyme; dimethoxymethane; N,N-dimethylformamide; ethanol; ethylamine; ethylbenzene; ethylene glycol ethers; ethylene glycol; ethylene oxide; formaldehyde; formic acid; glycerol; heptane; hexane; iodobenzene; mesitylene; methanol; methoxybenzene; methylamine; methylene bromide; methylene chloride; methylpyridine; morpholine; naphthalene; nitrobenzene; nitromethane; octane; pentane; pentyl alcohol; phenol; 1-propanol; 2-propanol; pyridine; pyrrole; pyrrolidine; quinoline; 1,1,2,2-tetrachloroethane; tetrachloroethylene; tetrahydrofuran; tetrahydropyran; tetralin; tetramethylethylenediamine; thiophene; toluene; 1,2,4-trichlorobenzene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; triethylamine; triethylene glycol dimethyl ether; 1,3,5-trimethylbenzene; m-xylene; o-xylene; p-xylene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; and 1,4-dichlorobenzene.

98. (Previously Presented) The method of claim 5 wherein said soft organic material is soluble in at least one inorganic solvent.

99. (Previously Presented) The method of claim 98 wherein said at least one inorganic solvent comprises water.

100. (Previously Presented) The system of claim 20 wherein said soft organic material is soluble in at least one organic solvent.

101. (Previously Presented) The system of claim 100 wherein said at least one organic solvent is selected from the group consisting of: acetic acid; acetone; acetonitrile; aniline; benzene; benzonitrile; benzyl alcohol; bromobenzene; bromoform; 1-butanol; 2-butanol; carbon disulfide; carbon tetrachloride; chlorobenzene; chloroform; cyclohexane; cyclohexanol; decalin; dibromethane; diethylene glycol; diethylene glycol ethers; diethyl ether; diglyme; dimethoxymethane; N,N-dimethylformamide; ethanol; ethylamine; ethylbenzene; ethylene glycol ethers; ethylene glycol; ethylene oxide; formaldehyde; formic acid; glycerol; heptane; hexane; iodobenzene; mesitylene; methanol; methoxybenzene; methylamine; methylene bromide; methylene chloride; methylpyridine; morpholine; naphthalene; nitrobenzene; nitromethane; octane; pentane; pentyl alcohol; phenol; 1-propanol; 2-propanol; pyridine; pyrrole; pyrrolidine; quinoline; 1,1,2,2-tetrachloroethane; tetrachloroethylene; tetrahydrofuran; tetrahydropyran; tetralin; tetramethylethylenediamine; thiophene; toluene; 1,2,4-trichlorobenzene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; triethylamine; triethylene glycol dimethyl ether; 1,3,5-trimethylbenzene; m-xylene; o-xylene; p-xylene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; and 1,4-dichlorobenzene.

102. (Previously Presented) The system of claim 20 wherein said soft organic material is soluble in at least one inorganic solvent.

103. (Previously Presented) The system of claim 102 wherein said at least one inorganic solvent comprises water.

104. (Previously Presented) The system of claim 29 wherein said dispersing reagent is soluble in at least one organic solvent.

105. (Previously Presented) The system of claim 104 wherein said at least one organic solvent is selected from the group consisting of: acetic acid; acetone; acetonitrile; aniline; benzene; benzonitrile; benzyl alcohol; bromobenzene; bromoform; 1-butanol; 2-butanol; carbon disulfide; carbon tetrachloride; chlorobenzene; chloroform; cyclohexane; cyclohexanol; decalin; dibromethane; diethylene glycol; diethylene glycol ethers; diethyl ether; diglyme; dimethoxymethane; N,N-dimethylformamide; ethanol; ethylamine; ethylbenzene; ethylene glycol

ethers; ethylene glycol; ethylene oxide; formaldehyde; formic acid; glycerol; heptane; hexane; iodobenzene; mesitylene; methanol; methoxybenzene; methylamine; methylene bromide; methylene chloride; methylpyridine; morpholine; naphthalene; nitrobenzene; nitromethane; octane; pentane; pentyl alcohol; phenol; 1-propanol; 2-propanol; pyridine; pyrrole; pyrrolidine; quinoline; 1,1,2,2-tetrachloroethane; tetrachloroethylene; tetrahydrofuran; tetrahydropyran; tetralin; tetramethylethylenediamine; thiophene; toluene; 1,2,4-trichlorobenzene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; triethylamine; triethylene glycol dimethyl ether; 1,3,5-trimethylbenzene; m-xylene; o-xylene; p-xylene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; and 1,4-dichlorobenzene.

106. (Previously Presented) The system of claim 29 wherein said dispersing reagent is soluble in at least one inorganic solvent.

107. (Previously Presented) The system of claim 106 wherein said at least one inorganic solvent comprises water.

108. (Currently Amended) The method of claim 31 wherein said soluble solid organic material is soluble in at least one organic solvent.

109. (Previously Presented) The method of claim 108 wherein said at least one organic solvent comprises at least one solvent selected from the group consisting of: acetic acid; acetone; acetonitrile; aniline; benzene; benzonitrile; benzyl alcohol; bromobenzene; bromoform; 1-butanol; 2-butanol; carbon disulfide; carbon tetrachloride; chlorobenzene; chloroform; cyclohexane; cyclohexanol; decalin; dibromethane; diethylene glycol; diethylene glycol ethers; diethyl ether; diglyme; dimethoxymethane; N,N-dimethylformamide; ethanol; ethylamine; ethylbenzene; ethylene glycol ethers; ethylene glycol; ethylene oxide; formaldehyde; formic acid; glycerol; heptane; hexane; iodobenzene; mesitylene; methanol; methoxybenzene; methylamine; methylene bromide; methylene chloride; methylpyridine; morpholine; naphthalene; nitrobenzene; nitromethane; octane; pentane; pentyl alcohol; phenol; 1-propanol; 2-propanol; pyridine; pyrrole; pyrrolidine; quinoline; 1,1,2,2-tetrachloroethane; tetrachloroethylene; tetrahydrofuran; tetrahydropyran; tetralin; tetramethylethylenediamine; thiophene; toluene; 1,2,4-trichlorobenzene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; triethylamine; triethylene glycol dimethyl ether; 1,3,5-trimethylbenzene; m-

xylene; o-xylene; p-xylene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; and 1,4-dichlorobenzene.

110. (Currently Amended) The method of claim 31 wherein said soluble solid organic material is soluble in at least one inorganic solvent.

111. (Previously Presented) The method of claim 110 wherein said at least one inorganic solvent comprises water.

112. (Previously Presented) The method of claim 54 wherein said dispersing reagent is soluble in at least one organic solvent.

113. (Previously Presented) The method of claim 112 wherein said at least one organic solvent is selected from the group consisting of: acetic acid; acetone; acetonitrile; aniline; benzene; benzonitrile; benzyl alcohol; bromobenzene; bromoform; 1-butanol; 2-butanol; carbon disulfide; carbon tetrachloride; chlorobenzene; chloroform; cyclohexane; cyclohexanol; decalin; dibromethane; diethylene glycol; diethylene glycol ethers; diethyl ether; diglyme; dimethoxymethane; N,N-dimethylformamide; ethanol; ethylamine; ethylbenzene; ethylene glycol ethers; ethylene glycol; ethylene oxide; formaldehyde; formic acid; glycerol; heptane; hexane; iodobenzene; mesitylene; methanol; methoxybenzene; methylamine; methylene bromide; methylene chloride; methylpyridine; morpholine; naphthalene; nitrobenzene; nitromethane; octane; pentane; pentyl alcohol; phenol; 1-propanol; 2-propanol; pyridine; pyrrole; pyrrolidine; quinoline; 1,1,2,2-tetrachloroethane; tetrachloroethylene; tetrahydrofuran; tetrahydropyran; tetralin; tetramethylethylenediamine; thiophene; toluene; 1,2,4-trichlorobenzene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; triethylamine; triethylene glycol dimethyl ether; 1,3,5-trimethylbenzene; m-xylene; o-xylene; p-xylene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; and 1,4-dichlorobenzene.

114. (Previously Presented) The method of claim 54 wherein said dispersing reagent is soluble in at least one inorganic solvent.

115. (Previously Presented) The method of claim 114 wherein said at least one inorganic solvent comprises water.